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U.S. Patent Application Serial Number 09/283,124, filed on even date with this patent application. —

IN THE CLAIMS:

Please replace claims 1, 3, 5, 6, 8, and 10-14 with the following amended versions thereof to incorporate the revisions set forth on the accompanying mark-up page:

- AB
- 1 1. (Amended) A method for routing a source routed packet to a Source Route
2 Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and routing information (RIF information) from said router to said each
8 station; and
9 writing said routing information read from said second field of said ARP table
10 into a Route Information Field (RIF) in a message packet before routing said message
11 packet to said SRB subnet for said destination station.

- AB
- 1 3. (Amended) A method for routing a source routed packet to a Source Route
2 Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical

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7 (MAC) address and routing information (RIF information) from said router to said each
8 station;
9 writing said routing information read from said second field of said ARP table
10 into a Route Information Field (RIF) in a message packet before routing said message
11 packet to said SRB subnet for said destination station; and
12 populating said routing information in said ARP table by reading RIF information
13 from a field of an Single Routes Explorer (SRE) packet, either a request or response
14 packet.

14

1 5. (Amended) The method as in claim 1 further comprising: updating said second
2 field of said ARP table when said router receives an ARP Explorer request packet from
3 one of said stations on said SRB subnet and said request packet contains RIF information.

1 6. (Amended) A method for routing a source routed packet to a Source Route
2 Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and routing information (RIF information) from said router to said each
8 station;
9 writing said routing information read from said second field of said ARP table
10 into a Route Information Field (RIF) in a message packet before routing said message
11 packet to said SRB subnet for said destination station; and
12 transmitting an ARP Explorer request packet upon expiration of an ARP table
13 flush timer, and updating said second field of said ARP table in response to receipt of an

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- 14 ARP Explorer response packet transmitted by a station in response to said ARP Explorer
15 request packet.

- AS 1 8. (Amended) A method for routing a source routed packet to a Source Route
2 Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and routing information (RIF information) from said router to said each
8 station;
9 writing said routing information read from said second field of said ARP table
10 into a Route Information Field (RIF) in a message packet before routing said message
11 packet to said SRB subnet for said destination station; and
12 transmitting a validation frame upon expiration of a validation time interval, and
13 in the absence of a response from said validation frame, transmitting an ARP Explorer
14 request packet, and updating said second field of said ARP table in response to receipt of
15 an ARP Explorer response packet transmitted by a station in response to said ARP Ex-
16 plorer request packet.

- 1 10. (Amended) A router comprising:
2 an address resolution protocol table (ARP table), said ARP table maintained in
3 said router, said ARP table having an entry for each station on a Source Route Bridge
4 (SRB) subnet to which said router routes packets, said entry having a first field contain-
5 ing a Layer 3 address of said station, said entry having a second field containing a Layer
6 2 address of said station including a physical (MAC) address and routing information
7 (RIF information) from said router to said each station, and;

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8 a packet format circuit to write required routing information read from said sec-
9 ond field of said ARP table into a Route Information Field (RIF) in a message packet be-
10 fore routing said message packet to a destination station on a destination SRB subnet.

1 11. (Amended) A router for routing a source routed packet to a Source Route
2 Bridge (SRB) subnet for a destination station, comprising:

3 means for maintaining an address resolution protocol table (ARP table) in said
4 router having an entry for each station on said SRB subnet to which said router routes
5 packets, said entry having a first field containing a Layer 3 address of said each station,
6 said entry having a second field containing a Layer 2 address of said each station includ-
7 ing a physical (MAC) address and routing information (RIF information) from said router
8 to said each station, and;

9 means for writing said routing information read from said second field of said
10 ARP table into a Route Information Field (RIF) in a message packet before routing said
11 message packet to said SRB subnet for said destination station.

1 12. (Amended) A computer readable device containing a computer program for
2 performing a method of routing a source routed packet to a Source Route Bridge (SRB)
3 subnet for a destination station, comprising:

4 maintaining an address resolution protocol table (ARP table) in a router having an
5 entry for each station on said SRB subnet to which said router routes packets, said entry
6 having a first field containing a Layer 3 address of said each station, said entry having a
7 second field containing a Layer 2 address of said each station including a physical
8 (MAC) address and routing information (RIF information) from said router to said each
9 station, and;

10 writing said routing information read from said second field of said ARP table
11 into a Route Information Field (RIF) in a message packet before routing said message
12 packet to said SRB subnet for said destination station.